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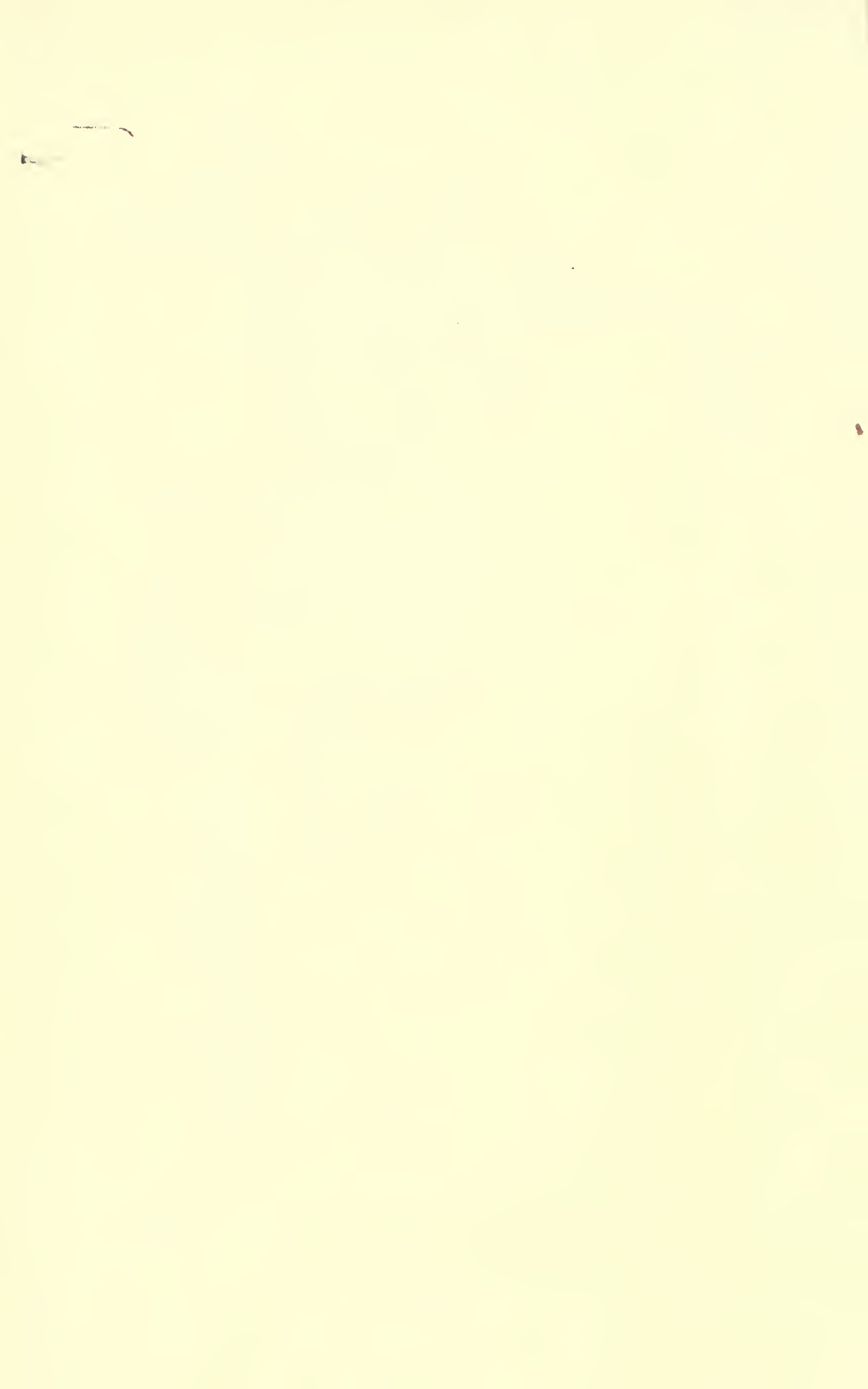
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HETEROMYIDS FROM THE MIOCENE
AND LOWER OLIGOCENE

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The genus *Heliscomys* has hitherto been known only from deposits of middle Oligocene age. Within the past year two specimens have been discovered which extend the known range of the genus back to the early Oligocene and forward to the lower Miocene. The Oligocene specimen, consisting only of a $P_{\overline{4}}$, is not sufficiently complete to be made the type of a new species, although it undoubtedly is distinct. The Miocene form displays sufficient diagnostic characters to warrant its description as new.

*Heliscomys woodi*¹ sp. nov.

Holotype.—F.M. No. P26255, portion of right ramus with $P_{\overline{4}}$ – $M_{\overline{1}}$.

Horizon and locality.—Lower Rosebud beds, lower Miocene. Four miles northeast of Porcupine, South Dakota.

Diagnosis.— $P_{\overline{4}}$ tricuspid with no incipient cuspule; $M_{\overline{1}}$ quadrate with the four primary cusps conular, independent, and subequal; transverse valley deeper than antero-posterior valleys; external and internal cingula not strongly developed; stylar cusps much smaller and lower than primary cusps.

Description.— $P_{\overline{4}}$ possesses three simple, subequal cusps arranged in a triangle. The cusps are rather low but distinct. The postero-buccal cusp is slightly closer to the anterior cusp than is the lingual one. $P_{\overline{4}}$ is more compressed antero-posteriorly than in other species of the genus. In its simple structure $P_{\overline{4}}$ resembles that of *H. vetus* most closely. It differs from most specimens of *H. hatcheri* and *H. senex* in having no cuspule developed beside the anterior cusp.

¹ In honor of Dr. Albert E. Wood for his important work on the Heteromyidae.

In M_T the four primary cusps are conular and subequal in shape and size. There is a slight posterior cingulum. The anterior cingulum is rather wide but much less so than in other known species. The anterior and external cingula are not continuous as they are in other species. The external cingulum is narrow and the stylar cusps are small and low. The anterior cingular cusp is postero-external to the protoconid and the posterior one is almost directly external to the hypoconid. The posterior cingular cusp is much smaller than the anterior and both are much lower than the primary cusps. The transverse valley is deeper than the antero-posterior valleys—seem-



FIG. 17. A, *Heliscomys woodi* sp. nov. Holotype. F.M. No. P26255. Crown view of P_4-M_1 . $\times 15$. B, *Heliscomys* sp. Walker Museum No. 1643. Crown view of P_4 . $\times 15$.

ingly more so than in the Oligocene species. This is the only character in which *H. woodi* appears to be more advanced than the earlier forms.

Discussion.—It is rather surprising to find a well-defined *Heliscomys* in the Miocene and even more so to find one with such a combination of primitive characters. *H. woodi* obviously represents a carry-over of a structurally ancestral form, one that lived on to become a contemporary of the more progressive, related *Mookomys*. Because of its primitive structure and its late appearance this species cannot be regarded as ancestral to any of the later heteromyids that are now known. The general picture of heteromyid phylogeny as worked out by Wood (Ann. Carnegie Mus., 24, pp. 73–262, 1935) is not changed by the discovery of this Miocene form. Perhaps the greatest importance of the Miocene species is proof that *Heliscomys* had a long vertical range and that the genus in itself is not a good criterion for detailed correlation.

Heliscomys sp.

During the summer of 1941 Dr. E. C. Olson of the Walker Museum collected a single left P_4 of *Heliscomys* from the type locality of the Pipestone Springs formation. This tooth is of particular interest because it is the first record of a pre-Brule heteromyid. Dr. Olson has kindly permitted me to study the specimen.

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The tooth resembles that of *H. gregoryi* and *H. hatcheri* in bearing four principal cusps, three forming a posterior, transverse row and one centrally located near the anterior border of the tooth. Also, as in the two species mentioned above, there is a small cuspule on the antero-external base of the anterior cusp and a pronounced cingulum connecting the posterior bases of the outer two cusps of the posterior row. Of the posterior cusps the central one is the largest, the external one somewhat smaller and the internal one considerably smaller. The valleys between these cusps are much deeper than those of the Brule species. In this character the Pipe-stone Springs specimen may be more primitive.

No new evidence concerning the origin of the heteromyids is offered by this specimen. It is very possible, however, that some new information would be provided by knowledge of the molars of this early Oligocene form.

MEASUREMENTS

(In millimeters)

	A-p	Tr
F.M. No. P26255, <i>H. woodi</i> sp. nov. { $P_{\overline{4}}$	0.46	0.46
	$M_{\overline{1}}$	1.12
		1.00
Walker Museum No. 1643, <i>Heliscomys</i> sp. . . P^4	0.73	0.86

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